2060TO'29864001

FIG. 1

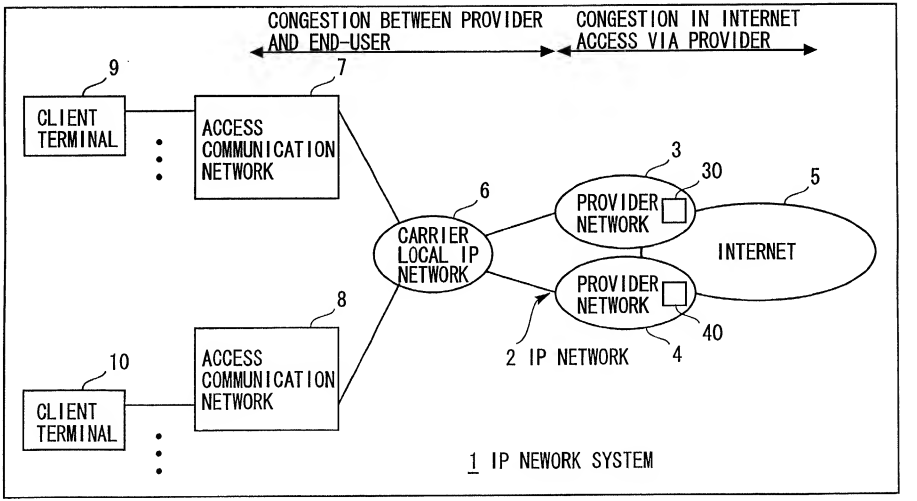

FIG. 2

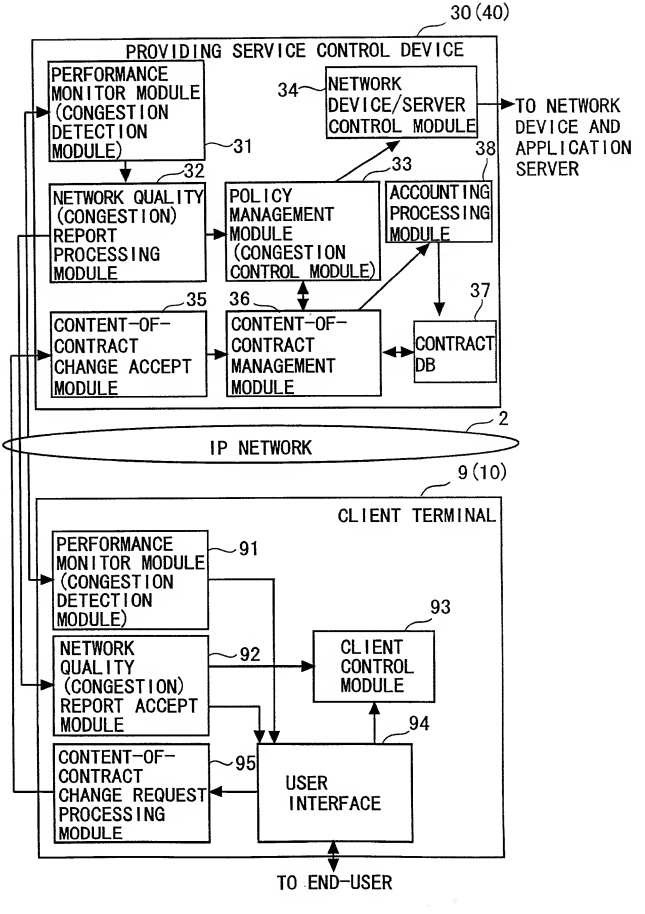
30(40)
PROVIDING SERVICE CONTROL DEVICE
PERFORMANCE MONITOR MODULE (CONGESTION DETECTION MODULE)
31
34
NETWORK DEVICE/SERVER CONTROL MODULE
TO NETWORK DEVICE AND APPLICATION SERVER
32
NETWORK QUALITY (CONGESTION) REPORT PROCESSING MODULE
33
POLICY MANAGEMENT MODULE (CONGESTION CONTROL MODULE)
38
ACCOUNTING PROCESSING MODULE
35
CONTENT-OF-CONTRACT CHANGE ACCEPT MODULE
36
CONTENT-OF-CONTRACT MANAGEMENT MODULE
37
CONTRACT DB
2
IP NETWORK
9(10)
CLIENT TERMINAL
PERFORMANCE MONITOR MODULE (CONGESTION DETECTION MODULE)
91
93
NETWORK QUALITY (CONGESTION) REPORT ACCEPT MODULE
92
CLIENT CONTROL MODULE
94
CONTENT-OF-CONTRACT CHANGE REQUEST PROCESSING MODULE
95
USER INTERFACE
TO END-USER

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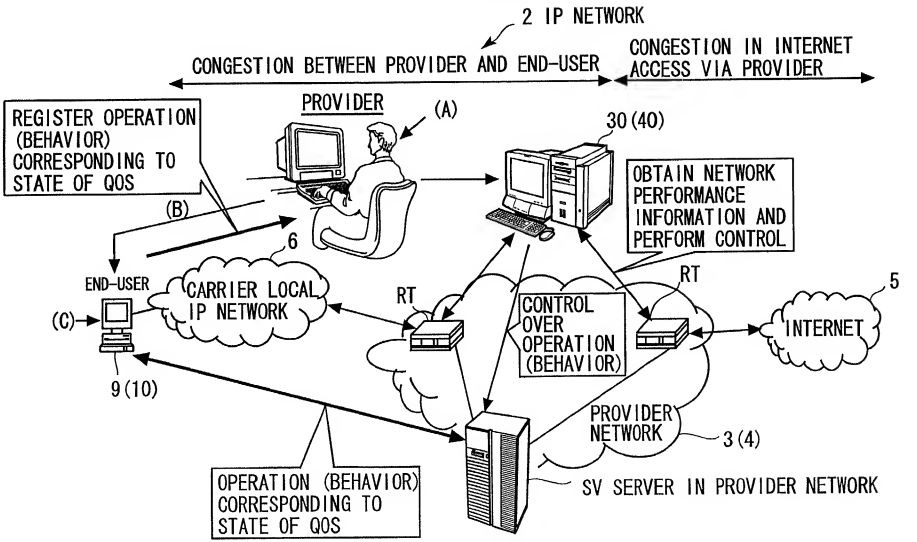
FIG. 3



2060TO'29BEhOOT

FIG. 4

37 CONTRACT DB

USER ID	SERVICE LEVEL	CONGESTION CONDITION	FEE	CONTENT SIZE	CONTENT FILE NAME
KAWAMURA	FULL	0%	A	132K	FILE-A
	MIDDLE	50%	A*0.5	60K	FILE-B
	LOW	80%	A*0.2	9K	FILE-C

FIG. 5

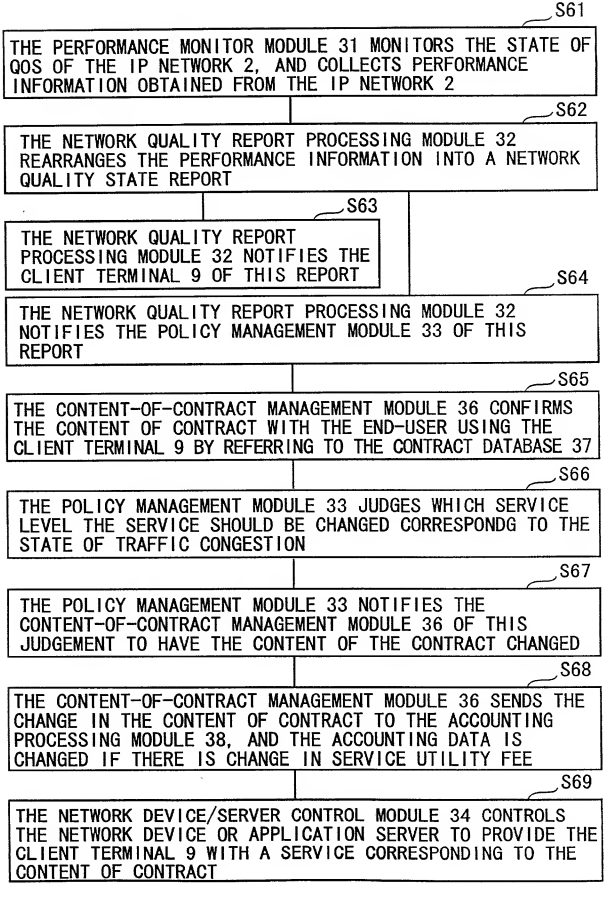

S61
THE PERFORMANCE MONITOR MODULE 31 MONITORS THE STATE OF QOS OF THE IP NETWORK 2, AND COLLECTS PERFORMANCE INFORMATION OBTAINED FROM THE IP NETWORK 2
S62
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 REARRANGES THE PERFORMANCE INFORMATION INTO A NETWORK QUALITY STATE REPORT
S63
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 NOTIFIES THE CLIENT TERMINAL 9 OF THIS REPORT
S64
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 NOTIFIES THE POLICY MANAGEMENT MODULE 33 OF THIS REPORT
S65
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 CONFIRMS THE CONTENT OF CONTRACT WITH THE END-USER USING THE CLIENT TERMINAL 9 BY REFERRING TO THE CONTRACT DATABASE 37
S66
THE POLICY MANAGEMENT MODULE 33 JUDGES WHICH SERVICE LEVEL THE SERVICE SHOULD BE CHANGED CORRESPONDG TO THE STATE OF TRAFFIC CONGESTION
S67
THE POLICY MANAGEMENT MODULE 33 NOTIFIES THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 OF THIS JUDGEMENT TO HAVE THE CONTENT OF THE CONTRACT CHANGED
S68
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 SENDS THE CHANGE IN THE CONTENT OF CONTRACT TO THE ACCOUNTING PROCESSING MODULE 38, AND THE ACCOUNTING DATA IS CHANGED IF THERE IS CHANGE IN SERVICE UTILITY FEE
S69
THE NETWORK DEVICE/SERVER CONTROL MODULE 34 CONTROLS THE NETWORK DEVICE OR APPLICATION SERVER TO PROVIDE THE CLIENT TERMINAL 9 WITH A SERVICE CORRESPONDING TO THE CONTENT OF CONTRACT

FIG. 6

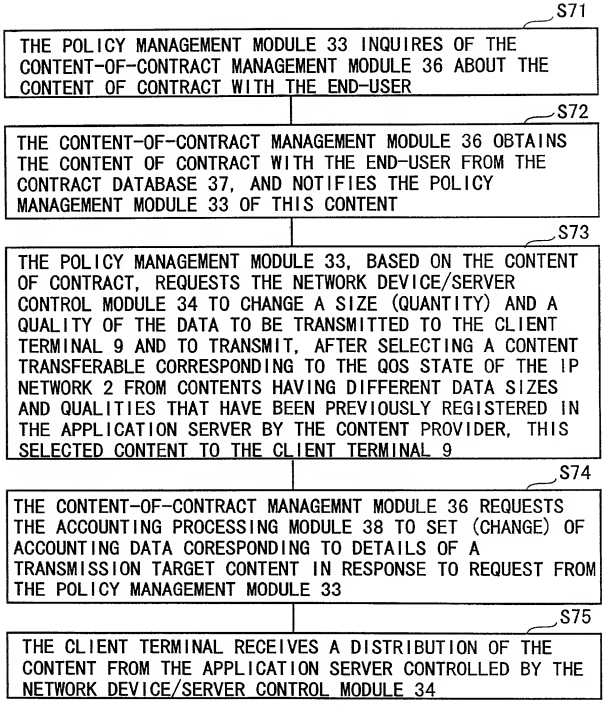

S71
THE POLICY MANAGEMENT MODULE 33 INQUIRES OF THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 ABOUT THE CONTENT OF CONTRACT WITH THE END-USER
S72
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 OBTAINS THE CONTENT OF CONTRACT WITH THE END-USER FROM THE CONTRACT DATABASE 37, AND NOTIFIES THE POLICY MANAGEMENT MODULE 33 OF THIS CONTENT
S73
THE POLICY MANAGEMENT MODULE 33, BASED ON THE CONTENT OF CONTRACT, REQUESTS THE NETWORK DEVICE/SERVER CONTROL MODULE 34 TO CHANGE A SIZE (QUANTITY) AND A QUALITY OF THE DATA TO BE TRANSMITTED TO THE CLIENT TERMINAL 9 AND TO TRANSMIT, AFTER SELECTING A CONTENT TRANSFERABLE CORRESPONDING TO THE QOS STATE OF THE IP NETWORK 2 FROM CONTENTS HAVING DIFFERENT DATA SIZES AND QUALITIES THAT HAVE BEEN PREVIOUSLY REGISTERED IN THE APPLICATION SERVER BY THE CONTENT PROVIDER, THIS SELECTED CONTENT TO THE CLIENT TERMINAL 9
S74
THE CONTENT-OF-CONTRACT MANAGEMNT MODULE 36 REQUESTS THE ACCOUNTING PROCESSING MODULE 38 TO SET (CHANGE) OF ACCOUNTING DATA CORESPONDING TO DETAILS OF A TRANSMISSION TARGET CONTENT IN RESPONSE TO REQUEST FROM THE POLICY MANAGEMENT MODULE 33
S75
THE CLIENT TERMINAL RECEIVES A DISTRIBUTION OF THE CONTENT FROM THE APPLICATION SERVER CONTROLLED BY THE NETWORK DEVICE/SERVER CONTROL MODULE 34

FIG. 7

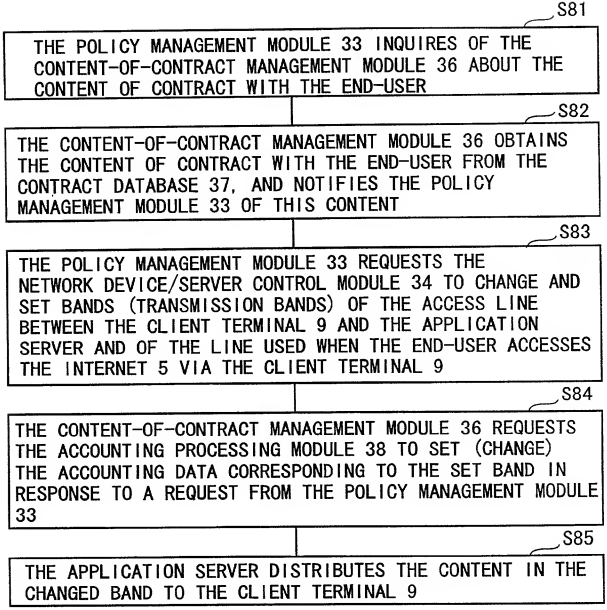

S81
THE POLICY MANAGEMENT MODULE 33 INQUIRES OF THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 ABOUT THE CONTENT OF CONTRACT WITH THE END-USER
S82
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 OBTAINS THE CONTENT OF CONTRACT WITH THE END-USER FROM THE CONTRACT DATABASE 37, AND NOTIFIES THE POLICY MANAGEMENT MODULE 33 OF THIS CONTENT
S83
THE POLICY MANAGEMENT MODULE 33 REQUESTS THE NETWORK DEVICE/SERVER CONTROL MODULE 34 TO CHANGE AND SET BANDS (TRANSMISSION BANDS) OF THE ACCESS LINE BETWEEN THE CLIENT TERMINAL 9 AND THE APPLICATION SERVER AND OF THE LINE USED WHEN THE END-USER ACCESSES THE INTERNET 5 VIA THE CLIENT TERMINAL 9
S84
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 REQUESTS THE ACCOUNTING PROCESSING MODULE 38 TO SET (CHANGE) THE ACCOUNTING DATA CORRESPONDING TO THE SET BAND IN RESPONSE TO A REQUEST FROM THE POLICY MANAGEMENT MODULE 33
S85
THE APPLICATION SERVER DISTRIBUTES THE CONTENT IN THE CHANGED BAND TO THE CLIENT TERMINAL 9

FIG. 8

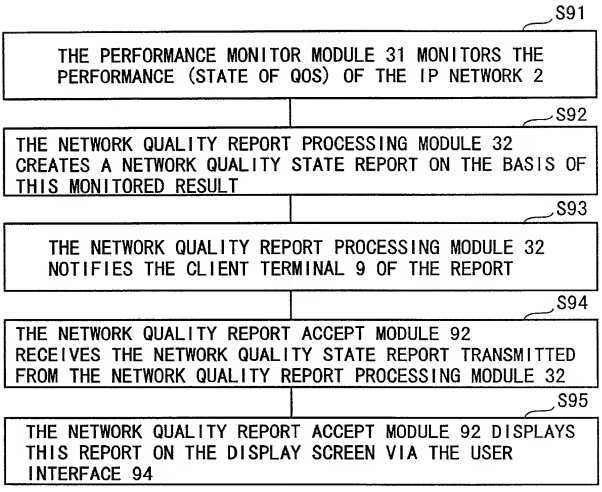

S91
THE PERFORMANCE MONITOR MODULE 31 MONITORS THE PERFORMANCE (STATE OF QOS) OF THE IP NETWORK 2
S92
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 CREATES A NETWORK QUALITY STATE REPORT ON THE BASIS OF THIS MONITORED RESULT
S93
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 NOTIFIES THE CLIENT TERMINAL 9 OF THE REPORT
S94
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 RECEIVES THE NETWORK QUALITY STATE REPORT TRANSMITTED FROM THE NETWORK QUALITY REPORT PROCESSING MODULE 32
S95
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 DISPLAYS THIS REPORT ON THE DISPLAY SCREEN VIA THE USER INTERFACE 94

FIG. 9

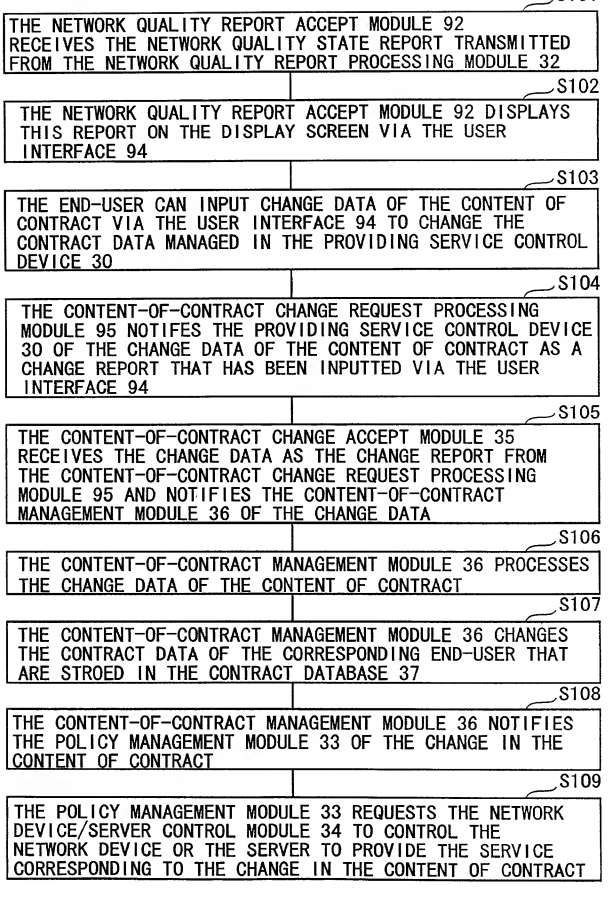

S101
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 RECEIVES THE NETWORK QUALITY STATE REPORT TRANSMITTED FROM THE NETWORK QUALITY REPORT PROCESSING MODULE 32
S102
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 DISPLAYS THIS REPORT ON THE DISPLAY SCREEN VIA THE USER INTERFACE 94
S103
THE END-USER CAN INPUT CHANGE DATA OF THE CONTENT OF CONTRACT VIA THE USER INTERFACE 94 TO CHANGE THE CONTRACT DATA MANAGED IN THE PROVIDING SERVICE CONTROL DEVICE 30
S104
THE CONTENT-OF-CONTRACT CHANGE REQUEST PROCESSING MODULE 95 NOTIFES THE PROVIDING SERVICE CONTROL DEVICE 30 OF THE CHANGE DATA OF THE CONTENT OF CONTRACT AS A CHANGE REPORT THAT HAS BEEN INPUTTED VIA THE USER INTERFACE 94
S105
THE CONTENT-OF-CONTRACT CHANGE ACCEPT MODULE 35 RECEIVES THE CHANGE DATA AS THE CHANGE REPORT FROM THE CONTENT-OF-CONTRACT CHANGE REQUEST PROCESSING MODULE 95 AND NOTIFIES THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 OF THE CHANGE DATA
S106
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 PROCESSES THE CHANGE DATA OF THE CONTENT OF CONTRACT
S107
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 CHANGES THE CONTRACT DATA OF THE CORRESPONDING END-USER THAT ARE STROED IN THE CONTRACT DATABASE 37
S108
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 NOTIFIES THE POLICY MANAGEMENT MODULE 33 OF THE CHANGE IN THE CONTENT OF CONTRACT
S109
THE POLICY MANAGEMENT MODULE 33 REQUESTS THE NETWORK DEVICE/SERVER CONTROL MODULE 34 TO CONTROL THE NETWORK DEVICE OR THE SERVER TO PROVIDE THE SERVICE CORRESPONDING TO THE CHANGE IN THE CONTENT OF CONTRACT

FIG. 10

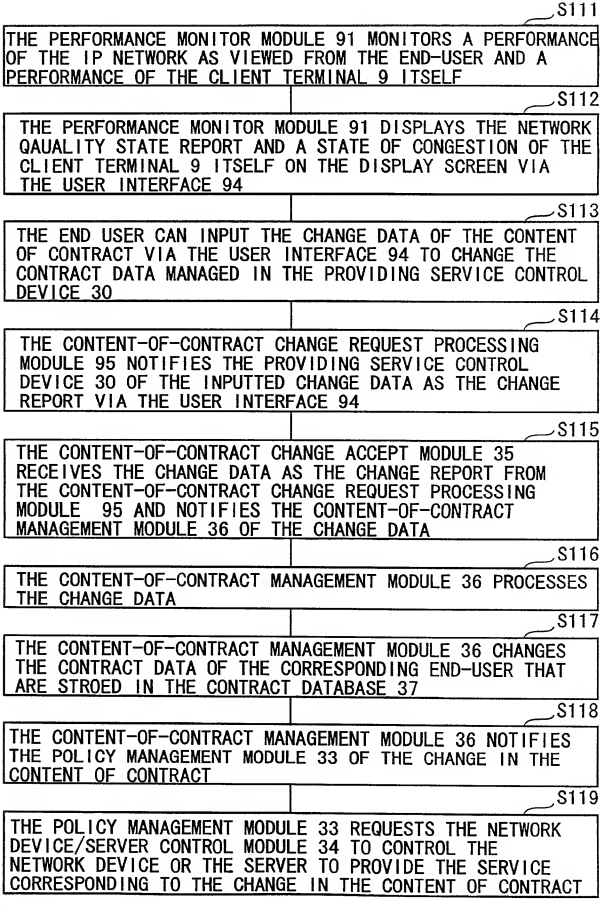
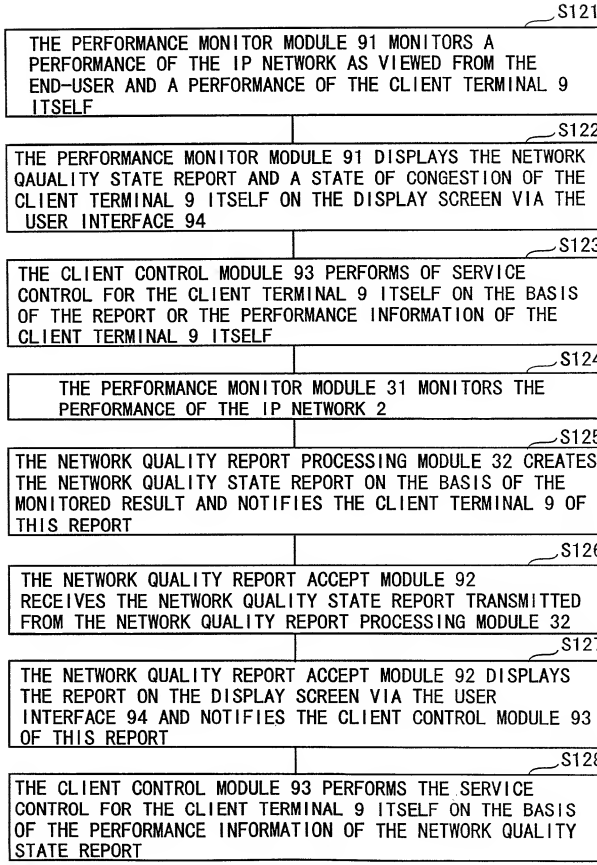

S111
THE PERFORMANCE MONITOR MODULE 91 MONITORS A PERFORMANCE OF THE IP NETWORK AS VIEWED FROM THE END-USER AND A PERFORMANCE OF THE CLIENT TERMINAL 9 ITSELF
S112
THE PERFORMANCE MONITOR MODULE 91 DISPLAYS THE NETWORK QAUALITY STATE REPORT AND A STATE OF CONGESTION OF THE CLIENT TERMINAL 9 ITSELF ON THE DISPLAY SCREEN VIA THE USER INTERFACE 94
S113
THE END USER CAN INPUT THE CHANGE DATA OF THE CONTENT OF CONTRACT VIA THE USER INTERFACE 94 TO CHANGE THE CONTRACT DATA MANAGED IN THE PROVIDING SERVICE CONTROL DEVICE 30
S114
THE CONTENT-OF-CONTRACT CHANGE REQUEST PROCESSING MODULE 95 NOTIFIES THE PROVIDING SERVICE CONTROL DEVICE 30 OF THE INPUTTED CHANGE DATA AS THE CHANGE REPORT VIA THE USER INTERFACE 94
S115
THE CONTENT-OF-CONTRACT CHANGE ACCEPT MODULE 35 RECEIVES THE CHANGE DATA AS THE CHANGE REPORT FROM THE CONTENT-OF-CONTRACT CHANGE REQUEST PROCESSING MODULE 95 AND NOTIFIES THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 OF THE CHANGE DATA
S116
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 PROCESSES THE CHANGE DATA
S117
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 CHANGES THE CONTRACT DATA OF THE CORRESPONDING END-USER THAT ARE STROED IN THE CONTRACT DATABASE 37
S118
THE CONTENT-OF-CONTRACT MANAGEMENT MODULE 36 NOTIFIES THE POLICY MANAGEMENT MODULE 33 OF THE CHANGE IN THE CONTENT OF CONTRACT
S119
THE POLICY MANAGEMENT MODULE 33 REQUESTS THE NETWORK DEVICE/SERVER CONTROL MODULE 34 TO CONTROL THE NETWORK DEVICE OR THE SERVER TO PROVIDE THE SERVICE CORRESPONDING TO THE CHANGE IN THE CONTENT OF CONTRACT

FIG. 11


S121
THE PERFORMANCE MONITOR MODULE 91 MONITORS A PERFORMANCE OF THE IP NETWORK AS VIEWED FROM THE END-USER AND A PERFORMANCE OF THE CLIENT TERMINAL 9 ITSELF
S122
THE PERFORMANCE MONITOR MODULE 91 DISPLAYS THE NETWORK QAUALITY STATE REPORT AND A STATE OF CONGESTION OF THE CLIENT TERMINAL 9 ITSELF ON THE DISPLAY SCREEN VIA THE USER INTERFACE 94
S123
THE CLIENT CONTROL MODULE 93 PERFORMS OF SERVICE CONTROL FOR THE CLIENT TERMINAL 9 ITSELF ON THE BASIS OF THE REPORT OR THE PERFORMANCE INFORMATION OF THE CLIENT TERMINAL 9 ITSELF
S124
THE PERFORMANCE MONITOR MODULE 31 MONITORS THE PERFORMANCE OF THE IP NETWORK 2
S125
THE NETWORK QUALITY REPORT PROCESSING MODULE 32 CREATES THE NETWORK QUALITY STATE REPORT ON THE BASIS OF THE MONITORED RESULT AND NOTIFIES THE CLIENT TERMINAL 9 OF THIS REPORT
S126
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 RECEIVES THE NETWORK QUALITY STATE REPORT TRANSMITTED FROM THE NETWORK QUALITY REPORT PROCESSING MODULE 32
S127
THE NETWORK QUALITY REPORT ACCEPT MODULE 92 DISPLAYS THE REPORT ON THE DISPLAY SCREEN VIA THE USER INTERFACE 94 AND NOTIFIES THE CLIENT CONTROL MODULE 93 OF THIS REPORT
S128
THE CLIENT CONTROL MODULE 93 PERFORMS THE SERVICE CONTROL FOR THE CLIENT TERMINAL 9 ITSELF ON THE BASIS OF THE PERFORMANCE INFORMATION OF THE NETWORK QUALITY STATE REPORT